

TARRANT September 2021 Newsletter

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TARRANT WATCH VIRAL

September 2021 Update

TARRANT News & Updates

Welcome to the TARRANT newsletter! First off, we would like to begin to express our sincere gratitude for your continuing efforts. The data you provide us makes a huge difference to better understand what is happening throughout Alberta. Going forward, we will be providing mini data analysis in our newsletters to show you trends in the data you collected.

Friendly reminder during this fall period to use the [GREEN](#) requisition form. If you require more swabs or have any questions, please feel free to email us at tarrant@ucalgary.ca.

Data Analysis

We have received samples from 731 participants from 08 June 2021 to 04 September 2021. There have been 23 positive cases of COVID-19, 11 positive cases of parainfluenza 3, and 492 positive cases of enterovirus/rhinovirus in various locations of Alberta (see Table 1). Calgary shows a greater prevalence of COVID-19 and parainfluenza 3 cases, while Edmonton has shown more cases of enterovirus/rhinovirus.

During this time period, the number of positive enterovirus/rhinovirus cases began to increase significantly in July but can now see a steady decline (see Figure 1). As for COVID-19 cases we can see a greater prevalence of positive cases in August. Those who have not received a vaccine for COVID-19 were more likely to test positive for COVID-19 (see Table 2).

These positive cases are distributed throughout all age groups, showing that the younger population is affected more (see Table 3).

Certain symptoms are more common in different positive viruses (see Table 4). In the positive COVID-19 cases, participants presented with cough as the most prominent symptom along with fever, sore throat, and runny nose. Cough is also seen dominantly in those positive with parainfluenza 3 with fever and fatigue

as additional common symptoms. In enterovirus/rhinovirus, the most frequent symptoms seen were cough, sore throat, myalgia, and runny nose.

Table 1: Cases in different locations

	COVID-19	Parainfluenza 3	Enterovirus/ rhinovirus	No virus
Calgary	16	6	97	40
Edmonton	3	3	269	99
Fort McMurray	0	0	77	51
Grande Prairie	0	0	3	0
High River	0	0	1	1
Red Deer	3	2	41	10
Sundre	1	0	4	8
TOTAL	23	11	492	209

Figure 1: Cases over the last few months

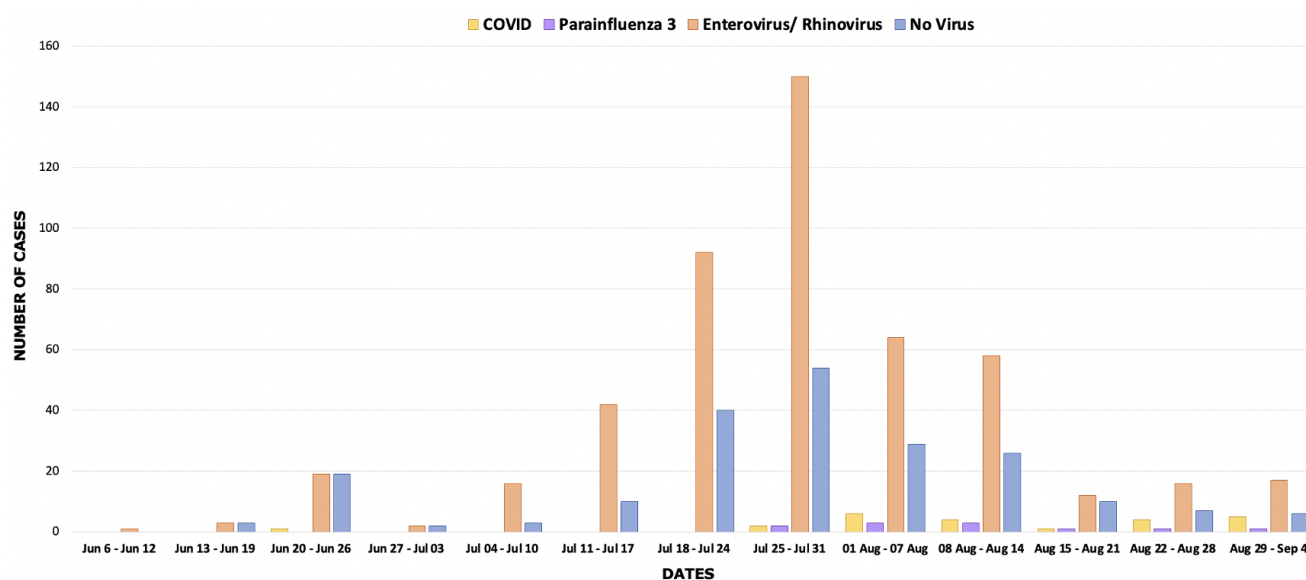


Table 2: Vaccination history in positive COVID-19 cases

	# of positive COVID-19	%
No vaccine	13	57%
One dose	5	21.5%
Two doses	5	21.5%

Table 3: Cases arranged according to age distribution

	COVID-19	Parainfluenza 3	Enterovirus/ rhinovirus	TOTAL
Age <10	1	7	98	106
Age 10-19	5	2	73	80
Age 20-29	6	0	97	103
Age 30-39	6	1	99	106
Age 40-49	1	0	68	69
Age 50-59	4	1	33	38
Age 60-69	0	0	17	17
Age 70-79	0	0	6	6
>80	0	0	1	1

Table 4: Symptoms associated with Positive virus detection

	COVID-19	Parainfluenza 3	Enterovirus/ rhinovirus
Cough	23	11	466
Fever	10	7	107
Chills	5	2	69
Sore throat	14	2	305
Myalgia	3	0	305
Arthralgia	0	0	19
Fatigue	11	5	132
Prostration	2	0	9
Headache	9	3	151
Nausea	1	0	21
Vomiting	0	0	12
Diarrhea	1	0	13
Runny nose	10	7	352
Congestion	7	2	262
Conjunctivitis	0	0	6
Dyspnea	1	0	36
Loss of smell	2	0	26
Loss of taste	3	0	26

Publications of Interest

Influenza epidemic - where we have been, where we are and where we are going

Rubin, R. (2021 August 25). Influenza's unprecedented low profile during COVID-19 pandemic leaves experts wondering what this flu season has in store. JAMA.

As we approach a new flu season, we took some time to analyze the events of the last flu season which has been surprisingly dramatic, as we expected what some called a "twindemic" - an influenza epidemic embedded in a COVID-19 pandemic. But it did not occur.

During the last flu season, of the 1.3 million specimens tested by clinical laboratories and reported to the US Centers for Disease Control and Prevention (CDC), about 0.16% were positive for influenza virus, and 748 deaths were coded as influenza, according to CDC data provided to JAMA. This was way below the usual levels.

This "missing influenza" was understandable because it appears that most of the social distancing techniques used during the global pandemic were effective, drastically reducing the spread of any viral respiratory infections.

The influenza epidemic is "unpredictable" - previous flu seasons have not followed any pattern; a mild one might be followed by a severe one or it might not. Epidemiologist Benjamin Cowling, PhD, of the University of Hong Kong School of Public Health, suggests that since influenza rates have been low for the past 18 months, there is a possibility that a population could lose herd immunity, hence producing a more severe influenza epidemic in locations that have fully reopened and have abandoned social distancing measures.

Talking about herd immunity, in a typical season, only 10% - 30% of a population is exposed to flu. Missing 2 full seasons of flu, can have substantial effect on herd immunity! There will be many more people without immunity to influenza.

Based on surveillance data (including ours), the WHO seasonally recommends 4 vaccine viruses every February for the northern hemisphere in preparation for the next flu season. This selection is based on factors like virulence, newly discovered mutations, and also availability of variants that grow well in eggs.

In July of 2021, Ann Moen, MPA, chief of influenza preparedness and response at the WHO noted that 6 WHO Collaborating Centers tested 156,000 specimens but only 600 (0.38%) were positive for influenza, further buttressing that the circulation of influenza has remained low. As a result, the WHO's

recommendations for the 2021/2022 northern hemisphere flu vaccine are based on much less information about the genetic and antigenic diversity of the circulating viruses that in previous years.

Thus, several uncertainties hover around the severity of this upcoming flu season, including: the impact of the last 18 months on herd immunity, the changing restrictions on social gatherings and their impact on spread of viruses, the severity of the COVID-19 pandemic this fall and winter, and how well vaccines are matched to circulating influenza viruses.

There is a ray of hope! Even in years when flu vaccines were not a great match for circulating viruses, many cases were still prevented.

All of these goes on to reinforce the importance and value of the work done by the TARRANT Viral Watch and other viral surveillance teams globally, who strive to collect data on circulating viruses seasonally with the help of our network of participating sentinels, to aid WHO to make informed recommendations.

Influenza Updates

Alberta Update:

There have been 0 lab confirmed influenza cases during this season in Alberta. Approximately 1,651,100 people received a 2020-21 influenza immunization dose in Alberta.

Source: [AHS \(Alberta Respiratory Virus surveillance\)](#)

Canada Update (as of 28 August 2021):

Despite continued monitoring for influenza across Canada, influenza activity has remained extremely low for this time in the reporting season. In the 2020-21 season, 69 influenza detections have been reported which is significantly lower than the past six seasons where an average of 52,169 influenza detections were reported for the season to date. For reporting week 30 to 34, the influenza percent positivity was 0%, compared to an average 25% over the past six seasons.

In weeks 30 to 34, five laboratory detections of influenza were reported, of which 3 were reported in week 34. Thirty-one of the influenza detections reported to date this season are known to be associated with recent live attenuated influenza vaccine (LAIV) receipt and do not represent community circulation of seasonal influenza viruses.

Overall, the percentage of laboratory tests positive for influenza remains at exceptionally low levels, despite the elevated levels of testing seen this month. In weeks 30 to 34, 28,234 tests for influenza were performed at reporting laboratories and the average percentage of tests positive was 0%. Compared to the past six seasons, the number of tests performed for this period was higher than the average (8,278) and the percentage of tests positive for influenza remains below average inter-seasonal levels. Testing for influenza and other respiratory viruses has been influenced by the current COVID-19 pandemic. Changes in laboratory testing practices may affect the comparability of data to previous weeks or previous seasons.

Source: [FluWatch](#) and [PHAC](#)

WHO Influenza Update (as of 05 July 2021, based on data up to 20 June 2021):

Influenza activity continues to be absent or remain below inter-seasonal levels in most countries in the temperate zones of the northern and southern hemispheres, the Caribbean, Southern and Central American countries despite a high increase in testing. Hygiene and physical distancing measures implemented to reduce SARS-CoV-2 transmission are likely to have played a role in reducing influenza

virus transmission.

National Influenza Centres (NICs) and other national influenza laboratories from 81 countries, areas or territories reported data to FluNet for the period from 02 August 2021 to 15 August 2021. The WHO GISRS laboratories tested more than 215,281 specimens during that period. 1424 were positive for influenza viruses, of which 927 (65.1%) were typed as influenza A and 497 (34.9%) as influenza B. Of the sub-typed influenza, A viruses, 55 (6.2%) were influenza A (H1N1) pdm09 and 830 (93.8%) were influenza A (H3N2). Of the 455 characterized B viruses, 100% belonged to the B-Victoria lineage.

Source: [Laboratory confirmed data from the WHO Global Influenza Surveillance and Response System \(GISRS\)](#).



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